

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-46 (Cancelled)

47. (Previously Presented) A nonpathogenic bacterium of the genus *Bifidobacterium*, comprising a vector that comprises:

a) a *Bifidobacterium* histone-like DNA binding protein (HU protein) promoter, a DNA sequence downstream of the promoter that encodes i) a protein with anti-tumor activity or ii) a protein that converts a precursor of an antitumor substance into an antitumor substance, and a HU protein terminator downstream of the DNA sequence; and

b) a selective marker selected from the group consisting of antibiotic resistance markers, nutritional requirement markers, and medium selection markers.

48. (Previously Presented) The bacterium of claim 47, wherein the vector autonomously replicates in the bacterium.

49. (Previously Presented) The bacterium of claim 47, wherein the vector is integrated in the genomic DNA of the bacterium.

50. (Previously Presented) The bacterium of claim 47, wherein the vector is an *E. coli*-*Bifidobacterium* shuttle vector.

51. (Previously Presented) The bacterium of claim 47, wherein the HU protein promoter and terminator are a *Bifidobacterium longum* promoter and terminator.

52. (Cancelled)

53. (Previously Presented) The bacterium of claim 51, wherein the HU protein promoter has the DNA sequence of nucleotides 1-192 of SEQ ID NO:1.

54. (Previously Presented) The bacterium of claim 51, wherein the HU protein terminator has the DNA sequence of nucleotides 472-600 of SEQ ID NO:1.

55. (Previously Presented) The bacterium of claim 53, wherein the HU protein terminator has the DNA sequence of nucleotides 472-600 of SEQ ID NO:1.

56. (Previously Presented) The bacterium of claim 47, wherein the vector is pBLES100-S-eCD.

57. (Previously Presented) The bacterium of claim 47, wherein the bacterium is *Bifidobacterium longum* 105A/pBLES100-S-eCD (accession no FERM BP-7274).
58. (Previously Presented) The bacterium of claim 47, wherein the bacterium is a *Bifidobacterium adolescentis*, *Bifidobacterium longum*, *Bifidobacterium bifidum*, *Bifidobacterium breve*, or a *Bifidobacterium infantis* bacterium.
59. (Previously Presented) The bacterium of claim 58, wherein the bacterium is a *Bifidobacterium longum* bacterium.
60. (Previously Presented) The bacterium of claim 47, wherein the DNA sequence encodes a protein that converts a precursor of an antitumor substance into an antitumor substance.
61. (Previously Presented) The bacterium of claim 60, wherein the protein is cytosine deaminase, nitroreductase, herpes simplex virus type 1 protein thymidine kinase, or β -glucuronidase.
62. (Previously Presented) The bacterium of claim 61, wherein the protein is a cytosine deaminase.
63. (Previously Presented) The bacterium of claim 47, wherein the bacterium is a *Bifidobacterium longum* bacterium and wherein the protein that converts a precursor of an antitumor substance into an antitumor substance is a cytosine deaminase.
64. (Previously Presented) A composition comprising the bacterium of claim 47 and an aqueous medium suitable for administration to a human.
65. (Cancelled)
66. (Cancelled)
67. (Cancelled)
68. (Cancelled)
69. (Cancelled)
70. (Cancelled)
71. (Cancelled)
72. (Cancelled)
73. (Previously Presented) The bacterium of claim 53, wherein the bacterium is a *Bifidobacterium adolescentis*, *Bifidobacterium longum*, *Bifidobacterium bifidum*, *Bifidobacterium breve*, or a *Bifidobacterium infantis* bacterium.

74. (Previously Presented) The bacterium of claim 73, wherein the bacterium is a *Bifidobacterium longum* bacterium.
75. (Previously Presented) The bacterium of claim 53, wherein the DNA sequence encodes a protein that converts a precursor of an antitumor substance into an antitumor substance.
76. (Previously Presented) The bacterium of claim 75, wherein the protein is cytosine deaminase, nitroreductase, herpes simplex virus type 1 protein thymidine kinase, or β -glucuronidase.
77. (Previously Presented) The bacterium of claim 76, wherein the protein is a cytosine deaminase.
78. (Previously Presented) The bacterium of claim 53, wherein the bacterium is a *Bifidobacterium longum* bacterium and wherein the protein that converts a precursor of an antitumor substance into an antitumor substance is a cytosine deaminase.
79. (Previously Presented) A composition comprising the bacterium of claim 53 and an aqueous medium suitable for administration to a human.